

REMARKS

Claims in the case are 1 and 12-14, upon entry of this amendment. Claim 1 has been amended, Claims 12-14 have been added, and Claims 2, 4, 7, 10 and 11 have been cancelled herein. Claims 3, 5, 6, 8 and 9 were previously cancelled.

Basis for the amendments to Claim 1 are found at: page 2, line 15 through page 3, lines 6 (in general); and at page 8, lines 26-28 (90°C and 190°C).

Basis for added Claim 12 is found in original Claim 3. Basis for added Claim 13 is found at page 9, lines 14-17 of the specification. Basis of added Claim 14 is found at page 9, lines 19-22 of the specification.

Claims 1, 2, 4, 7, 10 and 11 stand rejected under 35 U.S.C. §112, first paragraph. This rejection is respectfully traversed in light of the amendments herein and the following remarks.

It is argued in the Office Action of May 19, 2004, that Applicants' specification does not reasonably provide enablement with regard to omitting the premix step. Claim 1 (the only independent claim in the case) has been amended to include a mixing step, which occurs prior to the reaction step.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be sufficiently enabled by the specification. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1, 2, 4, 7, 10 and 11 stand rejected under 35 U.S.C. §112, first paragraph. This rejection is respectfully traversed in light of the amendments herein and the following remarks.

It is argued on pages 2 and 3 of the Office Action of 19 May 2004 that the specification lacks sufficient enablement with regard to preventing a static mixer from becoming plugged when used as a reactor in which TPU is formed in less than 5 seconds. Claim 1 has been amended to include separate mixing and reaction steps.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be sufficiently enabled by the specification. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1, 2, 4, 7, 10 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,739,252 (**Kirchmeyer et al**) in view of

United States Patent No. 3,642,964 (**Rausch et al**). This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Kirchmeyer et al disclose the preparation of thermoplastic polyurethaneurea elastomers by first mixing the isocyanate and active hydrogen reactants in a separate first static mixer (under conditions such that no reaction occurs between these reactants), and then reacting the mixed reactants in a second and separate static mixer (abstract).

Rausch et al disclose a process for preparing thermoplastic polyurethanes in an extruder (abstract). Rausch et al disclose both mixing and reaction occurring within a single apparatus (*i.e.*, within an extruder).

Kirchmeyer et al discloses the preparation of thermoplastic polyurethaneurea elastomers by means of two static mixers that are arranged in series. Rausch et al disclose a process for preparing thermoplastic polyurethanes in an extruder. As such, neither Kirchmeyer et al nor Rausch et al provide the requisite disclosure that would motivate a skilled artisan to combine or otherwise modify their respective disclosures to arrive at Applicants' presently claimed method. As the Court of Appeals for the Federal Circuit has stated, there are three possible sources for motivation to combine references in a manner that would render claims obvious. These are: (1) the nature of the problem to be solved; (2) the teaching of the prior art; and (3) the knowledge of persons of ordinary skill in the art, *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The nature of the problem to be solved and the knowledge of persons of ordinary skill in the art are not present here and have not been relied upon in the rejection. As for the teaching of the prior art, the above discussion has established that neither of the patents relied upon in the rejection provide the requisite teaching, and certainly do not provide the motivation or suggestion to combine that is required by Court decisions.

It is respectfully submitted that the rejection appears to impermissibly use Applicants' application as a blueprint for selecting and combining or modifying the cited references to arrive at Applicants' claimed invention, thereby making use of prohibited hindsight in the selection and application of those cited references. The use of hindsight reconstruction of an invention is an inappropriate process by which to determine patentability, *In re Rouffet*, 47 U.S.P.Q.2d at 1457 (Fed. Cir. 1998). "To imbue one of ordinary skill in the art with knowledge of the invention in suit,

when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983). It is essential that "the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made ... to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *Id.* One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

With regard to the criticality of Applicants' claimed limitations, attention is directed to the examples at pages 11-15 of the specification. In Examples 1, 2, 4 and 5, Components (A) and (B) were first mixed in a static mixer, and then the homogenous mixture was fed into and reacted in either a reaction tube (Examples 1, 2 and 4) or an extruder (Example 5). Applicants submit that in Examples 1, 2, 4 and 5, the residence time in the static mixer was less than one second (calculated as being 0.98 seconds). Examples 1, 2 and 5 are according to the present invention, and the temperature of Components (A) and (B) was about 140°C in Examples 1 and 2, and about 90°C in Example 5. Comparative Example 4 was conducted in accordance with the method of Example 1, but Component (A) was fed into the static mixer at a temperature of 60°C, while Component (B) was fed into the static mixer at a temperature of 140°C (i.e., at a temperature difference of 80°C). Comparative Example 4 had to be terminated due to a high pressure increase within the static mixer.

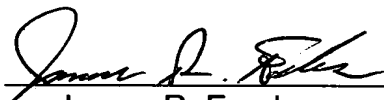
In Comparative Example 3, both mixing and reaction were conducted in an extruder. Components (A) and (B) were fed into the extruder at temperatures of about 90°C and 140°C, respectively. The resulting TPU of Example 3 had poorer melting characteristics relative to the TPU's of Examples 1 and 2. See page 12, lines 9-20 and Table 1 of the specification. Applicants submit that in Comparative Example 3, Components (A) and (B) were homogeneously mixed within about 3 seconds in the first part of the extruder (as determined by calculation).

Comparative Example 6 was performed in a manner similar to that of Example 5, but Component (A) was introduced into the static mixer at temperature of 23°C, and Component (B) was introduced into the static mixer at temperature of 80°C (i.e., at a temperature difference of 57°C, and at temperatures that are outside of Applicants' presently claimed range of 90°C to 180°C). The TPU of Example 5 had improved melting characteristics relative to the TPU of Example 6.

In light of the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Kirchmeyer et al in view of Rausch et al. Reconsideration and withdrawal of this rejection is respectfully requested.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to meet all the requirements of 35 U.S.C. §112, and to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

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